

Natural History Section

The Natural History Section came into being following passage of the conservation sales tax. Creation of such a unit was implicit in the *Design for Conservation*, which had promised increased attention to natural areas, special lands, endangered species, non-game wildlife and plants not fully dealt with under previous programs of the Department. While some efforts had been made for non-game wildlife from the earliest days of the Department, there was a real question as to the propriety of using funds which came essentially from hunter and fisherman licenses for such purposes.

The Conservation Commission's constitutional mandate gave it authority over all wildlife resources of the state, and legislative enactments supported that premise. Game and non-game were not differentiated. However, the realities of the situation, where funding came from sportsmen, naturally demanded that most attention be paid to those creatures considered game.

Possibly the biggest step of the Department toward a wider interest in the natural world was creation of a Natural Areas System in 1970. This was spearheaded by Assistant Director Allen Brohn, Assistant State Forester John E. Wylie and Wildlife Research Supervisor Bill T. Crawford. They prepared a natural areas policy that was adopted by the Commission. A committee was appointed to develop a classification of natural areas in the state, and it searched all Department holdings for examples of such areas. The Conservation Commission designated them as natural areas, and priority was given to their preservation. Other landholding agencies such as The Nature Conservancy, Missouri Prairie Foundation, the University of Missouri and the U. S. Forest Service entered the program and permitted designation of portions of their lands as natural areas. In April, 1977, the Department of Natural Resources joined the program and a state Natural Areas System, administered by a joint committee chaired



John E. Wylie, seated, became the first chief of the Natural History Section at its genesis in 1977. Wylie and Allen Brohn, standing, were honored by The Nature Conservancy in 1987 for their work establishing a statewide Natural Areas System.

by Allen Brohn, was established.

The *Design for Conservation*, echoing the Leopold-Fox-Callison *MCP Report*, promised Missourians the Department would work toward a rich and diverse environment, which included programs for plants and animals hitherto more or less ignored.

With passage of the conservation sales tax in 1976, the funding base was broadened to include all Missouri citizens, especially those who might be called non-consumptive users of wildlife such as bird watchers, nature photographers, backpackers and hikers, and it made possible broadened programs to attain that goal. Over the years interest in wildlife—some ninety-eight percent of which was in the non-game category—had developed, and citizens eagerly endorsed programs to



Bill T. Crawford, above, was instrumental in development of the Natural Areas System that became a model for protection of fragile resources.

preserve both wildlife and plants that were a part of that Missouri diversity.

When the Natural History Section was created in 1977, John E. Wylie, formerly an assistant state forester, became its chief. He developed a staff and programs reflecting the *Design s* promises. Seventeen specialists make up the staff, including naturalists, botanists, an ornithologist, herpetologist and urban biologists. Probably no similar fish and wildlife agency in the country is so competently staffed or has programs so broad.

Attention to non-game wildlife is by no means restricted to this section. Other Department units carry on research on non-game species, manage and protect natural areas and endangered species, employ naturalists and operate nature centers. Natural His-

Non-game species from bullsnakes to pondberry receive attention from the Natural History Section. Herpetologist Tom Johnson, below, and other naturalists help citizens understand their wild resources.





Prairies are among nature's crown jewels." The varied plant and animal forms found on Missouri native prairies need protection as their once vast habitat continues to diminish. John Wylie addresses a crowd at the dedication of the Hite Prairie in Morgan County in 1980.

tory serves significantly to help coordinate and provide specialized support for programs and management of lands by all Department units so that a full range of natural values is provided.

The Natural History Section's mission was a tall order. There are over 2,700 native plants, hundreds of species of birds, reptiles, fishes and small mammals, and thousands of species of invertebrate animals like crayfish, mussels and insects. The problem was compounded with little known rare and endangered species. For instance, it had been forty years since the wood frog was last reported in Missouri.

To get a handle on all these creatures and their habitats would take a lot of help. Coordination was required with all Depart-

ment personnel and efforts were made to enlist the aid of all knowledgeable people in the state. The section helped organize a Native Plant Society and a herpetological section of the Missouri Academy of Science. Personnel were assigned to work closely with The Nature Conservancy, Audubon Society chapters, Missouri Prairie Foundation and garden clubs to secure their help. Private and state institutions also were enlisted in the effort. Through a system of small grants and stipends, graduate students and their professors have done a number of studies.

The Department's natural areas program became a part of the new section when a natural areas coordinator was appointed. Natural areas can be thought of as pristine ecosystems or as special habitats. In either

case, they are home for most of our species of plants and animals—some of them extremely rare. Endangered Species Coordinator Dr. James H. Wilson drew the analogy: “Brickyard Hill Loess Mounds Natural Area in Atchison County is over 400 miles from Cash Swamp Natural Area in Dunklin County, but biologically they span a distance from the high plains to the Mississippi Delta, more than a thousand miles.

There presently are 136 natural areas registered in the state, with eighty-eight owned or managed by the Department. The system has been refined to embrace terrestrial, aquatic and geologic systems. Much of the effort has been to inventory and survey the state for potential natural areas and endangered species habitats. So much new information on natural areas and rare and endangered species was amassed that the section had to develop a data system to effectively use it. With the help of The Nature Conservancy, the section has developed a natural heritage data base with 4,500 elements of the state's natural diversity recorded. This information is used by planners throughout the Department, as well as other agencies and the general public, in consideration of fragile environments or endangered species when planning any developments.

Land acquisition has been an important and enduring function of the Natural History Section. Wylie is fond of describing their values as nature's crown jewels. Prairies, caves, swamps, marshes, glades, old forests and springs have all come into public ownership for public enjoyment. Many are designated as natural areas, others as special habitats for rare and endangered species, some have special features for people who like to see and enjoy wildlife and the wildlife community itself. One special category of land is called urban wild acres, lands bought as nuclear habitats in cities for the enrichment of urban neighborhoods.

Surveys make up a large part of the section's programs to determine the status and distribution of wildlife and plants, many of them little known. Elementary research in combination with survey results are used to develop management plans. Missouri was the first state to undertake statewide surveys of



Missouri has acquired *immature bald eagles to be released in the wild in hopes of re-establishing a nesting population. This young eagle is being “hacked”—cared for in captivity without direct human contact.*

all candidate plants on the federal government list of possibly endangered species, and the first to set up a monitoring program for such plants. Efforts have extended from hummingbirds to bald eagles and trumpeter swans, from shrews and bats to jackrabbits and otters, from tiny wood frogs to giant alligator snapping turtles. Other species studied include tiny cave fish, lake sturgeon, bluebirds, barn owls, collared lizards, Franklin's ground squirrels, Blanding's turtles, crayfish, mussels, and plants from the one-inch high *Geocarpon* to Nuttall's oak—all part of the rich tapestry that is the Missouri natural world.

The section has surveyed the biological organisms in over 500 Missouri caves, finding twenty-five species of invertebrates that are new to science. It has played a major role in bringing back bald eagles to nesting status in Missouri, and in efforts to preserve the red wolf, now nearly extinct.

The bulk of Missouri's citizens live in the two metroplexes, Kansas City and St. Louis. There is wildlife there, too, and interest in



Interest in the natural world continues to grow, as citizens explore the flora and fauna beyond their doorsteps. Here Botanist Sherry Morgan records the location of an Ozark wake robin.

wildlife is high. Natural History has assigned an urban biologist to each area to assist citizens develop that interest or to handle wildlife problems that may arise. They conduct radio and television programs, are information sources for the media, and assist other personnel in the area.

A naturalist program coordinator assists naturalists stationed on Department areas with their interpretive programs, bringing the world of nature to visitors. He also coordinates the popular Eagle Days and Prairie Days programs of the Department, and began the Day on the River and Day in the Forest programs where Missourians get face-to-face with the natural world and relive a little of our history.

The section has taken advantage of walking as one of the most popular outdoor pleasures by building a hiking trail at Pickle Springs Natural Area near Farmington. Other

such trails are planned for Ruth and Paul Henning State Forest in Shepherd of the Hills Country near Branson, at Millstream Gardens State Forest near Ironton and Sun-bridge Hills Natural Area in St. Joseph.

The Natural History Section is involved in nature centers, such as Burr Oak Woods near Kansas City, which play an important part in bringing the public and the outdoors together. Plans are under way for development of nature centers in Springfield, St. Louis and Jefferson City, where an estimated half-million people each year will be able to learn and enjoy more about forest, fish and wildlife resources and the natural world. These will be managed by the Natural History Section.

Interpretation of our rich natural history is an important element of the section's mission. All of its professional staff are selected



Urban Biologist Dave Tylka helps St. Louis residents understand the natural phenomena that occur even in metropolitan environments.



At Natural History's annual Eagle Days and Prairie Days, Missourians explore their natural heritage. Botanist Ginny Wallace, above, leads a group across Hite Prairie. Below, a tot focuses on the marvels of a bald eagle at a Clarksville Eagle Day.



Outdoor recreation is on the upswing in the state, as more people than ever are fishing, hiking and bird-watching. John Wylie (in profile) interprets a nature trail at Pickle Springs Natural Area near Farmington.

for communicative skills as well as specialized biological knowledge. To help Missourians better understand and enjoy their natural world, the staff has given hundreds of talks, written scores of magazine and newspaper articles, and produced many publications.

The section has been active in publishing leaflets and books on different aspects of the outdoors. Subjects include Missouri roadside wildflowers, Missouri orchids, freshwater mussels, ferns, mosses and lichens, the pre-settlement prairie in Missouri, a natural events calendar and a poster on feeding winter birds. In press are guide books on Missouri moths and butterflies, and reptiles and amphibians. Also produced are posters and sound tapes on toads and frogs and bird calls.

Although a relatively small section within the Department, Natural History Section has already played a leading role in bringing to fruition the promises of the *Design for Conservation*.



'The impact of Natural History's contribution to the Department is just beginning to be felt, as naturalists help new generations behold nature's myriad miracles.